In the Specification:

On page 1, after the title insert the following:

RELATED APPLICATIONS

This is a U.S. national stage of application No. PCT/DE2004/000609, filed on 24 March 2004.

This patent application claims the priority of German patent application no. 103 14 524.9, filed 31 March 2003, the disclosure content of which is hereby incorporated by reference.

FIELD OF THE INVENTION

On page 1, amend the paragraph beginning on line 5 as follows:

The invention relates to a headlight having a multitude of headlight elements, ~~as claimed in the preamble of claim 1~~ and to a headlight element therefore ~~as claimed in the preamble of claim 31~~.

On page 1, delete the paragraph beginning on line 9 through line 11 in its entirety.

On page 1, before line 13, insert the following heading:

BACKGROUND OF THE INVENTION

On page 1, amend the paragraph beginning on line 26 as follows:

However, because of its circular shape, a headlight as described ~~claimed~~ in US 6,527,411 B1 cannot be used, or can be used only to a restricted extent, for many applications in which the headlight is required to have a defined emission characteristic. One example of this is a motor vehicle headlight for which the applicable standards (for example ECE in Germany) stipulate an emission characteristic with a well-defined geometry of a light beam, and with abrupt light/dark transitions. Furthermore, there are applications in which it is necessary or advantageous for a headlight to have a variable emission characteristic.

On page 2, before line 1, insert the following heading:

SUMMARY OF THE INVENTION

On page 2, amend the paragraph beginning on line 1, as follows:

One object of the present invention is to ~~develop~~ provide a headlight which, while being of simple design, allows a multitude of different emission characteristics and variable emission characteristics.

A further object of the present invention is to develop a headlight element which is particularly suitable for a headlight such as this.

On page 2, delete the paragraph beginning on line 9 through line 11 in its entirety.

On page 2, delete the paragraph beginning on line 13 through line 26 in its entirety and insert the following:

This and other objects are attained in accordance with one aspect of the present invention directed to a headlight having a multitude of headlight elements, which each have at least one semiconductor chip which emits electromagnetic radiation and has a chip output surface through which electromagnetic radiation is emitted, a primary optics element, which has a light input and a light output and which reduces the divergence of the light which is incident through the light input, with the light being at least part of the electromagnetic radiation and/or at least part of a secondary radiation which is produced from the electromagnetic radiation emitted from the semiconductor chip, and at least one headlight element output, which emits a part of the headlight light from the headlight element. At least some of the headlight element outputs are arranged in at least two groups in such a way that the arrangement of at least one of the groups and/or at least one overall arrangement of headlight element outputs of multiple groups corresponds essentially to a desired emission characteristic of the headlight, in that, in particular, it has a shape which corresponds essentially to the cross-sectional shape of a desired headlight beam, wherein the semiconductor chips which belong to the headlight element outputs of one group can each be operated independently of other semiconductor chips.

On page 13, amend the paragraph beginning on line 7, as follows:

The wavelength of the radiation which is emitted from the thin-film light-emitting diode chip can also be converted essentially completely by the luminescence conversion material, for example, in order to convert radiation that is not visible to visible light. When using at least two different luminescent materials it is also possible, in particular, to produce white light in this

way. Such organic or inorganic luminescent material particles are described, for example, in ~~WO 98/12757~~ USP 6,066,861, the content of which is hereby incorporated by reference.

On page 14, delete the paragraph beginning on line 24 through line 28 in its entirety.

On page 14, before line 29, insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 15, before line 22, insert the following heading:

DETAILED DESCRIPTION OF THE DRAWINGS

On page 15, amend the paragraph beginning on line 33 as follows:

The semiconductor chip is, for example, a thin-film light-emitting diode chip, which can be obtained as described above ~~in the general part~~. Furthermore, the epitaxial layer sequence may be based on at least one material in the system $In_xAl_yGa_{1-x-y}N$ or $In_xGa_yAl_{1-x-y}P$ where $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x+y \leq 1$. This has a chip output surface 4, which is directly adjacent to the light input 17 of the primary optics element.

On page 16, amend the paragraph beginning on line 31 as follows:

The base body of the primary optics element 5 acts like a cavity whose inner wall is provided with a material which is reflective for the light which is emitted from the semiconductor chip, for example being provided with a metallic layer which is composed, for example, of aluminum. In this case, the wavelength of the light is partially or entirely converted

by means of a luminescence conversion material which comprises at least one phosphor. The material from which the base body is essentially manufactured may be a plastic such as polycarbonate and, by way of example, the base body may be produced from a material such as this by means of injection molding.

On page 19, amend the paragraph beginning on line 33, through page 20 line 5 as follows:

A primary optics element as illustrated in Figure 6 has the advantage over the primary optics elements 5 illustrated in Figures 1 to 3b that it makes it possible to achieve a comparable reduction in the divergence of a light beam while at the same time significantly reducing the physical height of the primary optics element 5. A further advantage of the primary optics element illustrated in Figure 6 is that, because it has straight side surfaces, it can be produced more easily by means of a ~~spraying~~ molding method, such as injection molding or transfer molding.

On page 20, amend the paragraph beginning on line 29 through page 21, line 2 as follows:

A ~~spraying~~ molding method, in particular, can be used to form multiple primary optics elements integrally with one another, as is illustrated in the form of an example in Figure 7. The primary optics elements 5 in this exemplary embodiment are connected to one another by means of a mounting plate 50, with the mounting plate being arranged close to the light output 18, so that parts of the primary optics elements 5 which are like truncated pyramids originate from one face of the mounting plate 50 and lens-like elements are formed on the other face, whose outer surface in each case forms the light output 18 of the primary optics elements 5.

On page 21, amend the paragraph beginning on line 16 as follows:

It is also possible for the primary optics element to be designed in such a way that the divergence of electromagnetic radiation on different planes which run parallel to the main emission direction of the primary optics element is reduced to a different extent. For example, ~~the beam angle of an emitted light beam is approximately 7° on one plane, and is approximately 10° on a plane at right angles to this first plane (section surface along a main emission line)~~ the emitted light beam comprises a beam angle of approximately 7° if measured in a first plane that extends parallel to a main emitting direction of the primary optics elements. If, however, the beam angle is measured along a second plane which extends parallel to a main emitting direction of the primary optics element and which extends diagonally to the plane mentioned before, its value is approximately 10°. This means that the light beam has an elongated cross-sectional area.